

The DOE-CH ACQ Current Solicitations Website (<http://www.ch.doe.gov/business/acq/solicit.htm>) is the official medium used for posting amendments to this solicitation. Any data coming from any other source are not official. All interested applicants must monitor this Website for any changes.

## **SOLICITATION DE-SC02-00CH11040**

### **Chemicals Industry of the Future**

#### **TABLE of CONTENTS**

<b>SUMMARY.....</b>	<b>3</b>
<b>SECTION I: GENERAL INFORMATION.....</b>	<b>4</b>
<b>COST SHARE .....</b>	<b>4</b>
<b>ELIGIBLE APPLICANTS .....</b>	<b>4-5</b>
<b>STATUTORY AUTHORITY .....</b>	<b>5</b>
<b>CFDA NUMBER .....</b>	<b>5</b>
<b>FOR FURTHER INFORMATION OR QUESTIONS AND ANSWERS CONTACT: .....</b>	<b>5</b>
<b>APPLICATIONS .....</b>	<b>5-6</b>
<b>APPLICATION DUE DATES.....</b>	<b>6</b>
<b>SUBMITTAL ADDRESS.....</b>	<b>6</b>
<b>PROJECTED SOLICITATION MILESTONES .....</b>	<b>6-7</b>
<b>SECTION II: SUPPLEMENTARY INFORMATION .....</b>	<b>7</b>
<b>A. Background .....</b>	<b>7</b>
<b>B. Project Description .....</b>	<b>7</b>
<b>SECTION III: TECHNICAL APPLICATION REQUIREMENT .....</b>	<b>8-10</b>
<b>A. Executive Summary .....</b>	<b>8</b>
<b>B. Technical Application .....</b>	<b>8-10</b>
<b>C. Lobbying Certification .....</b>	<b>10</b>
<b>SECTION IV: APPLICATION EVALUATION.....</b>	<b>10-12</b>
<b>A. Merit Reviews .....</b>	<b>10</b>
<b>B. Selection Criteria.....</b>	<b>10-12</b>
<b>C. Weighting of Criteria .....</b>	<b>12</b>
<b>D. Program Policy Factors .....</b>	<b>12</b>
<b>SECTION V: GENERAL CONDITIONS .....</b>	<b>12-14</b>
<b>A. Non-governmental Reviewers.....</b>	<b>12</b>
<b>B. Application Preparation Costs.....</b>	<b>12</b>
<b>C. Partial Awards .....</b>	<b>12</b>
<b>D. Intellectual Property Provisions .....</b>	<b>12-14</b>
<b>SECTION VI: NOTICES TO APPLICANTS .....</b>	<b>14-16</b>
<b>A. Amendments .....</b>	<b>14</b>
<b>B. Commitment of Public Funds .....</b>	<b>14</b>
<b>C. Assurances and Certifications .....</b>	<b>14</b>
<b>D. Pre-award Costs.....</b>	<b>15</b>
<b>E. Environmental Impact.....</b>	<b>15</b>
<b>F. EPACT .....</b>	<b>15</b>
<b>G. DOE Minority Economic Impact Loan .....</b>	<b>15</b>
<b>H. Buy American Act .....</b>	<b>15</b>
<b>I. Simpson-Craig Amendment.....</b>	<b>16</b>
<b>J. Lobbying Restriction (Interior Act 2000).....</b>	<b>16</b>
<b>K. Notice Regarding Eligible/Ineligible Activities .....</b>	<b>16</b>

L.	Unsuccessful Applications .....	16
M.	Intergovernment Review .....	16
SECTION VII: SUPPLEMENTAL DOCUMENTATION .....		17-18
A.	Who Must Submit Supplemental Documentation .....	17-18
URL ADDRESSES FOR DOCUMENTS & FORMS REFERENCED IN THIS SOLICITATION		
APPENDIX A .....		19-22
Table 1 - Energy Savings.....		20
Table 2 - Environmental Savings from Reduction in non-Combustion Related Emissions .....		21
Table 3 - Commercialization Market .....		22

**AGENCY:** Department of Energy, Chicago Operations Office.

**ACTION:** Solicitation for Financial Assistance Applications No. DE-SC02-00CH11040, Chemicals Industry of the Future.

**SUMMARY**

The U.S. Department of Energy (DOE), Chicago Operations Office (CH) is seeking applications for cost-shared research and development (R&D) of technologies which will reduce energy consumption, enhance economic competitiveness, and reduce environmental impacts of the Chemicals Industry. The research is to address research priorities identified by the Chemicals Industry in *Technology Vision 2020: The U.S. Chemical Industry* and associated technology roadmaps. Approximately \$4,000,000 in federal funds are expected to be available to fund the first twelve months of selected research projects. Subject to the availability of funds, approximately \$8 million is planned to fund the remaining two years of the projects. DOE anticipates making 3 to 6 cooperative agreement awards each with a duration of three years or less. Collaborations among industry, university, and DOE Laboratory participants are encouraged. The cooperative agreements will be awarded in accordance with DOE Financial Assistance regulations, Title 10 of the Code of Federal Regulations, Chapter II Subchapter H, Part 600 (10 CFR Part 600). Award of a cooperative agreement under this solicitation does not commit the Government to fund any follow-on research. Successful applicants will be required to submit quarterly, annual, and final technical reports to DOE.

In this solicitation, DOE is interested in projects that focus on applied research and result in the development and completion of pilot-scale operations (not to exceed two years) within the timeframe of the award. Projects of most interest will be those that show broad applicability and large energy savings. Technological development could modify or provide an alternative to the conventional process technology or operation so that the performance of the existing process operation would be dramatically improved.

Project performance periods are divided into budget periods. The performance period for the first budget period is anticipated to be 12 months. Subject to the availability of funds, DOE may issue a continuation award (e.g., the second budget period), if the awardee demonstrates a continuing need for federal assistance; shows sufficient progress in the research effort; has completed the objectives in compliance with a mutually agreed upon management plan; has submitted timely and informative reports; and identifies the objectives planned for the new budget period.

A minimum of two industrial chemical companies must be involved. An “industrial chemical company” is defined as a private (profit or non-profit) organization that manufactures chemicals and allied products or provides products or services to such manufacturers. In addition to chemical and allied products manufacturers, raw material suppliers, equipment and technology suppliers, architectural and engineering companies, software and consulting firms, trade and professional associations, and research institutes that routinely conduct a minimum of 10% of their business as, with, or for Chemical Industry manufacturers, are within the scope of the definition.

## **SECTION I. General Information**

### **COST SHARE**

Cost share may be provided as cash or in-kind contributions. Cost share may not be other federal funding. Cost share must originate from non-federal sources. Reference 10 CFR 600.123, 10 CFR 600.127, and 10 CFR 600.224.

The Office of Industrial Technologies (OIT) requires a minimum of fifty percent (50%) non-federal cost-share across all of its portfolio for research and development projects. This solicitation is requiring 50% cost share to ensure pro-active industrial involvement, risk-taking by industry, and to encourage novel, energy efficient processes developed by this R&D program to be implemented by industry. There will be no waivers of this cost share requirement. First year cost share can be as low as 30% if, in subsequent years, sufficient cost share is identified so that the non-federal share of the total project is at least 50 percent. However, it is important to note that in the event that the project is not completed, then the awardee will be required to increase the cost share to meet the 50% requirement. Notwithstanding the above, in the event a demonstration project is proposed, the recipient shall be required to cost share a minimum of 50% of total project costs on an annual basis.

In evaluating the cost share, the percentage calculated from the cost information will be rounded to the nearest full percentage. Prior costs (e.g., costs for prior R&D, patents, or to develop technical reports) should not be proposed and will not be considered as cost share. Fee or profit will not be paid under any award and foregone fee or profit will not be accepted as cost share.

If a DOE Laboratory is chosen as a teaming partner, its participation will be funded directly by DOE and the costs associated with the Laboratory's participation will count towards the Government's cost share, not the Applicant's cost share. Additionally, the recipient's cost sharing requirement will be based on the total cost of the project including both the recipient and the DOE laboratory portions of the effort.

### **ELIGIBLE APPLICANTS**

Any non-profit or for-profit organization, university, or other institution of higher education, or non-Federal agency or entity is eligible to apply, unless otherwise restricted by the Simpson-Craig Amendment (Reference Section VI.K. of this solicitation).

A minimum of two industrial chemical companies must be involved. An "industrial chemical company" is defined as a private (profit or non-profit) organization that manufactures chemicals and allied products or provides products or services to such manufacturers. In addition to chemical and allied products manufacturers, raw material suppliers, equipment and technology suppliers, architectural and engineering companies, software and consulting firms, trade and professional associations, and research institutes that routinely conduct a minimum of 10% of their business as, with, or for Chemical Industry manufacturers, are within the scope of the definition.

Applicants must propose a teaming arrangement that includes at least two industrial chemical companies as defined above in order to be considered. Teams may also include, but are not limited to, industry, universities, trade and professional associations, DOE Laboratories, and small businesses that facilitate technology transfer to the private sector, promote commercialization, and enhance U.S. competitiveness.

Applications from DOE Laboratories are not eligible for an award under this solicitation and therefore any such application submitted will not be evaluated. However, an application that includes performance of a portion of the work by a DOE Laboratory (not to exceed 50 percent) will be considered for award. Approval from the cognizant DOE Contracting Officer must be submitted with the proposal. DOE Laboratories will receive their funding through their existing arrangements with the Government via Field Work Proposals (FWP).

#### **STATUTORY AUTHORITY**

The statutory authority for this program is the U.S. Department of Energy Organization Act (Public Law 95-91) and the Energy Policy Act of 1992 (Public Law 102-486, as amended by Public Law 103-437).

#### **CFDA NUMBER**

The Catalog of Federal Domestic Assistance (CFDA) Number for this program is 81.086, *Conservation Research and Development*.

#### **FOR FURTHER INFORMATION OR QUESTIONS AND ANSWERS CONTACT:**

Questions must be submitted in writing by facsimile to the Contract Specialist, Mr. John Motz, at 630-252-5045; or by e-mail to [john.motz@ch.doe.gov](mailto:john.motz@ch.doe.gov), no later than October 11, 2000. As appropriate, answers to the questions will be posted on the DOE-CH ACQ Current Solicitations Website.

#### **APPLICATIONS**

The application face sheet is the Standard Form (SF) 424, *Application for Federal Assistance*. The application is to be prepared for the complete project period. A separate application shall be prepared for each project (i.e., do not combine two or more projects in one application).

Technical applications should not exceed a maximum of 20 pages excluding the required SF 424 form, the completed tables (i.e., "Energy Savings," "Environmental Savings," and "Commercialization Market,") included as Appendix A to this solicitation, and a lobbying disclosure form.

See Section II through Section VI of this solicitation for technical requirements. Section VII identifies the types of supporting documentation that will be required from applicants whose technical proposals are selected for negotiation of award. Applicants are not required to submit Section VII information unless they are notified by DOE to do so.

Applications must be submitted on standard 8-1/2" x 11" letter size paper. Margins on all four sides must be at least 1"; font size must not be smaller than 11 point Arial or equivalent. The

front and back sides of a single sheet are counted as 2 pages. To the extent possible, proposal information should be submitted on both sides of a sheet.

#### **APPLICATION DUE DATES**

Complete applications must be received by **3:00 p.m. Central Standard Time on Wednesday, November 01, 2000**. Any application not received at the location specified in the solicitation by the date and time identified above will not be evaluated.

The application supplemental documentation, discussed in Section VII of this solicitation, must be submitted within 30 days after selection notification. Selections are expected to be made on or about January 15, 2001. Applicants who fail to cooperate fully and in a timely manner during negotiations may be eliminated from further consideration for awards.

#### **SUBMITTAL ADDRESS**

Applications must be submitted to:

U.S. Department of Energy  
Chicago Operations Office  
9800 South Cass Avenue  
Building 201, Communications Center, Room 168  
Argonne, IL 60439-4899  
ATTN: John P. Motz  
Solicitation No.: DE-SC02-00CH11040.

**Caution:** Applicants assume full responsibility for insuring that the application is received at the prescribed place by the specified time and date and with the required number of copies. Neither electronic nor facsimile (fax) applications will be accepted.

Applicants are advised that the U.S. Department of Energy, Chicago Operations Office, is located on the site of the Argonne National Laboratory (ANL), and is a separate and distinct facility from ANL. Delivery to and/or acceptance of an application at any other location, including the ANL Visitor's Reception Center, the ANL loading dock, Building 201 loading dock, or any other ANL or DOE receiving point does not conform with delivery of the application in accordance with the delivery instructions.

ANL is a contractor-operated, controlled access facility that requires advanced clearance arrangements, particularly for non-U.S. citizens. Sufficient time should be allotted for normal admittance procedures, and may be coordinated with John P. Motz at 630-252-2152.

#### **PROJECTED SOLICITATION MILESTONES**

Applications will be evaluated promptly after the technical application due date deadline. Any applications received after the specified due date and time will not be evaluated. Merit review and selection activities are expected to be completed approximately two months after the technical application deadline. Subject to negotiations, cost-shared cooperative agreements are expected to be executed approximately four months after selection. This timeframe includes time for submission by selected applicants of the non-technical, application supplemental

documentation required for an award. Incomplete or inadequately supported applications will delay or negate awards.

## **SECTION II: Supplementary Information**

### **A. Background**

The U.S. Department of Energy (DOE) through its Office of Industrial Technologies (OIT) supports industries in their efforts to increase energy efficiency, reduce waste and increase productivity. The goal of OIT is to accelerate the development and use of advanced energy efficient, renewable, and pollution prevention technologies that benefit industry, the environment, and U.S. energy security. OIT's core program is the Industries of the Future Program that focuses on basic materials and processing industries such as the Chemical Industry. This solicitation seeks applications for research and development projects that address the priorities identified in *Technology Vision 2020: The U.S. Chemical Industry* and the subsequent technology roadmaps. Negotiations with successful applicants will result in cost-shared cooperative agreements.

### **B. Project Description**

Through OIT's Industries of the Future strategy, the Chemical Industry developed a cooperative alliance with OIT. In 1996, the industry completed a vision for the industry's future entitled *Technology Vision 2020: The U.S. Chemical Industry*. The vision focuses on new chemical science and engineering technologies, supply chain management, information systems, and manufacturing and operations. Using the vision as guidance, the Chemical Industry initiated workshops for the development of technology roadmaps that defined the Industry's research and development needs. These workshops and roadmaps in the areas of (a) catalysis, (b) separations, (c) computational fluid dynamics and chemistry, (d) materials of construction, (e) reaction engineering, and (f) new process chemistry, outline key technology improvements necessary to enhance global competition, improve environmental quality, and increase energy efficiency in the Chemical Industry.

The Chemicals Industry of the Future program seeks industry cost-shared projects involving multi-disciplinary teams that address research needs identified in the above documents. In this solicitation, DOE is interested in projects that focus on applied research and lead to the development and completion of pilot-scale operations (not to exceed two years). Projects of most interest will be those that show large energy savings and broad applicability. Technological development could modify or provide an alternative to a conventional process technology or operation so that the existing process operation performance would be dramatically improved.

Responsive projects could crosscut several technological roadmaps. The proposals should address system integration and process operation development. The proposing technology development team must show a high probability of technology commercialization beyond a single company. Proposing teams must describe a path to commercialization that will impact more than one chemical company's process applications.

### **SECTION III: Technical Application Requirements**

An application must address the following requirements.

#### **A. Executive Summary**

The executive summary shall consist of no more than two pages and shall include the following information: the proposed program and why it is appropriate for the domestic Chemical Industry and whether it addresses the research priorities identified in the solicitation; an organizational plan with identification of all project participants; the role of each participant; the specialized experience of the team members; the total costs and non-federal cost-share commitments (itemize the financial commitment of each participant); and a clear and specific reference to the applicable chemical technology roadmaps and section therein or topical area that is being addressed.

In addition, present a non-proprietary description and summary of the proposed project including project benefits and outcome(s). The non-proprietary summary should be limited to two paragraphs and should present a project description that is suitable for publication in fact sheets for use throughout the industry.

The executive summary is to be provided for information and will not be point scored.

#### **B. Technical Application**

The technical application face sheet is Standard Form (SF) 424, Application for Federal Assistance, that can be accessed electronically at the electronic address identified at the end of this solicitation. The application is to be prepared for the complete project period. A separate application should be prepared for each project, i.e., do not combine two or more projects in one application. As indicated in item 18, the application must be signed by an individual who is authorized to commit the applicant's organization to the terms and conditions of any resulting award. The SF 424, the technical application, the three completed tables, and a lobbying disclosure form shall be prepared in one volume and shall be submitted as one original (original signatures) and six copies, for a total of seven sets of the proposal. Each proposal set shall be marked as "original," "copy 1," etc. Technical applications shall be a maximum of 20 pages excluding the required SF 424, the completed tables, and a lobbying disclosure form. Applications must be submitted on standard 8 ½" x 11" letter size paper. Margins on all four sides shall not be smaller than 1"; font size shall not be smaller than 11-point Arial or equivalent. The front and back sides of a single sheet are counted as two pages. To the extent possible, proposal information should be submitted on both sides of a sheet. Pages in excess of the limitation will not be evaluated.

##### **1.0 Research Concept**

Discuss the proposed concept and key innovative components of the R&D activities. Describe how the concept addresses the research needs cited in the chemical roadmap documents. Discuss the technical feasibility of the concept. Identify the



hurdles to be overcome by the proposed R&D. Describe domestic and worldwide technology status including emerging technologies. Explain why the domestic industry is not already investigating or implementing the proposed concept and why they will not conduct the R&D without government assistance.

## 2.0 Project Plan

Describe the project goals, scope of work, and objectives. Provide a work breakdown structure. Provide a milestone plan and schedule. Identify and describe decision points, and go/no-go decision criteria. Provide a spending plan by task, phase, and year. Address the description of and justification for needed facilities and associated estimated costs. Provide budget justification and sources concerning proposed costs of sufficient detail to allow DOE to verify cost share contributions, percentages, and source. Describe project organization and individual responsibilities. Describe how tasks will be integrated among the participants and the project will be coordinated. Describe the project management structure including implementation and monitoring of the research and development (R&D). Discuss the management philosophy for achieving project success.

## 3.0 Team Capabilities and Facilities

Provide a summary as to how industry will participate in the proposed R&D activities. Provide brief resumes of key personnel, describe their responsibilities and identify the levels of effort. Describe related experience. Describe relevant facilities and equipment that will be available for use on this project.

## 4.0 Commercialization Plan

Identify the path that will be used by the project team to transfer the technology to industry. Describe the unique characteristics that make the project team ideally suited to successfully develop and commercialize the project technology. Describe how the technology will be made available to a wide cross-section of the Chemical Industry at the earliest practicable time. Present current and potential partnering strategies, possible follow-on development phases, licensing strategies, economic analyses, and potential market barriers and how the barriers will be overcome.

## 5.0 Energy Savings and Other Benefits

Discuss how the Chemical Industry will benefit from the proposed project in terms of energy savings, environmental performance, and commercialization. Complete the "Energy Savings" table included in Appendix A of this solicitation. Provide the assumptions and detailed calculations of energy savings. Complete the "Environmental Savings from Reduction in Non-Combustion Related Emissions" table included in Appendix A of this solicitation. Provide the assumptions and detailed calculations of the environmental savings. Complete the "Commercialization Market" table included in Appendix A of this solicitation. Provide the assumptions and detailed calculations of the market penetration and resultant economic benefit to the overall domestic Chemical Industry.

### C. Lobbying Certification

In accordance with 10 CFR Section 601.110(a), each applicant shall submit a lobbying certification, and a disclosure form, if required. The Certification Regarding Lobbying; Debarment, Suspension and other Responsibility Matters; and Drug Free Workplace Requirements (FA-CERTS), and the Disclosure of Lobbying Activities (SF-LLL) forms can be found at the website identified in section VII of this solicitation. The certification and disclosure forms do not count toward the page limitation restriction.

## SECTION IV: Application Evaluation

### A. Merit reviews

All applications will be evaluated under the procedures for "Objective Merit Review of Discretionary Financial Assistance Applications" that was published in the Federal Register on May 19, 1998 (Vol. 63, No. 96), and the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals", dated December 1999.

Oral and/or written clarifications from applicants may be required by the Merit Review Chairperson.

### B. Selection criteria

Only those applications that meet all the requirements of the solicitation will be considered for selection. Selections will be made in accordance with the following selection criteria and programmatic considerations. All applications will be evaluated and point-scored in accordance with the following criteria. The applications must be fully responsive to each criterion.

Executive Summary (not point scored):

The executive summary shall consist of no more than two pages and shall include the information specified in the application requirements.

Technical Application: The criteria and weights are specified as follows:

Criterion 1 (20 points): Research Concept

Discussion of the research concept will be evaluated considering the technical merit, innovative nature, adequacy, thoroughness, and description of the following: 1) industry involvement; 2) the citation to the research need(s) as identified in the chemical roadmap documents; 3) the discussions of the technical feasibility of the project and the technical obstacles to be overcome; 4) the applicant's understanding of the current state of the technology at the domestic and international level; and 5) a convincing rationale for the need of federal financial assistance in the context of the research concept.

Criterion 2 (25 points): Project Plan

The project plan will be evaluated by considering the adequacy, technical merit, and completeness by which it identifies and discusses the following: 1) the goals and objectives of the project; 2) the scope of work; 3) the work breakdown structure with associated milestones, schedule, and spend plans; 4) the justification and costs associated with required new facilities; and 5) the identification of targets and go/no-go decision points. The project plan will also be evaluated by considering the adequacy of the management structure and the responsibilities of the participants; the philosophy and methods and procedures to integrate and coordinate the work; and the management and control of project activities.

Criterion 3 (15 points): Team Capabilities and Facilities

The team's capabilities and facilities will be evaluated by considering the adequacy and completeness by which the brief resumes and responsibilities of key personnel address the work; the relevance of individual and corporate experience in the area of research; and adequacy of any required facilities.

Criterion 4 (10 points): Commercialization Plan

The commercialization plan will be evaluated by considering the adequacy and completeness of the plan, including the project team's unique characteristics that make them ideally suited to successfully develop and commercialize the project technology, as well as an achievable schedule to license and/or transfer the technology to the Chemical Industry; an appropriate economic analyses, and identification of market barriers and the strategy to overcome them.

Criterion 5 (30 points): Energy Savings and Other Benefits

The energy savings and other benefits will be evaluated considering the adequacy, technical merit, assumptions, and completeness of the completed Table 1 ("Energy Savings") that is included as appendix A of the solicitation. The environmental and commercialization tables will be evaluated based on the adequacy, merit, assumptions and completeness of the Table 2 ("Environmental Savings from Reduction in Non-Combustion-Related Emissions") and Table 3 ("Commercialization Market"). It is important to note that Table 1 for "energy savings" is weighted twice the combined value of the other completed tables, i.e., the "Environmental Savings" and "Commercialization Market" tables.

**C. Weighting of Criteria**

The criteria are based on a maximum of 100 points and are weighted as indicated above.

**D. Program Policy Factors**

In conjunction with the evaluation results and rankings of individual applications, the Government will make selections for negotiations and planned awards using the following programmatic consideration:

The project supports a balanced portfolio of R&D projects (i.e., diverse technologies, applications that benefit different segments of the Chemical Industry, complementary efforts, short duration vs. long duration projects, short-term and long-term market penetration horizons, and geographic distribution) that contribute to OIT's programmatic objectives.

**SECTION IV: General Conditions**

**A. Non-Governmental Reviewers**

In addition to Government personnel, outside evaluators may be used in the evaluation process. In designating outside evaluators, DOE will take into consideration requirements for avoidance of organizational and personal conflicts of interest and the competitive relationship, if any, between the applicant and the prospective outside evaluator. The evaluation will be performed under a confidentiality agreement with the evaluator, stipulating that the data contained in the application will be used only for evaluation purposes and will not be further disclosed. **Submission of an application constitutes consent for its review by outside evaluators.**

**B. Application Preparation Costs**

DOE is under no obligation and will not pay for any costs associated with the preparation or submission of applications if an award is not made. If an award is made, such costs may be allowable as provided in the applicable cost principles (See 10 CFR Parts 600.127 and 600.222).

**C. Partial Awards**

DOE reserves the right to fund, in whole or in part, any, all, or none of the applications submitted in response to the solicitation.

**D. Intellectual Property Provisions**

Applicants are advised that patents, data, and copyrights will be treated in accordance with 10 CFR 600.27.

## 1.0 Right to Request Patent Waiver

Applicants and prospective applicants, in accordance with applicable statutes and the Department of Energy Acquisition Regulations (DEAR), have the right to request, in advance of or within 30 days after the effective date of award, a waiver of all or any part of the rights of the United States in subject inventions. Small business firms and domestic non-profit organizations normally will receive the Patent Rights clause of DEAR 952.227-71 which permits the recipient to retain title to subject inventions, except in contracts for management and operation of a Government-owned research or production facility and in contracts involving exceptional circumstances or intelligence activities. Therefore, small business firms and non-profit organizations normally need not request a waiver.

## 2.0 Advance Waiver of Patent Rights

The terms of the advance waiver of patent rights can be found at Federal Acquisition Regulation (FAR) 52.227-12, as supplemented by 10 CFR 784, DOE patent waiver regulations, and are subject to such mutually acceptable modifications as may be appropriate considering the nature of the technology, the U.S. manufacturing base, and the relevant markets.

## 3.0 Proprietary Data

The Department's policy is to use data included in Applications for evaluation purposes only and to protect such information from unauthorized use or disclosure. Each page and line in your Application, which contains proprietary data, should be clearly marked by italicizing or placing a black line in the margin. The Section entitled "Rights in Proposal Data" found in the "Financial Assistance Pre-Award Information Sheet" (AA-47), Appendix I, should be consistent with the proprietary markings, if any, in your Application.

## 4.0 Patent Rights

For large businesses, the Government normally takes title to all inventions conceived or first actually reduced to practice under a DOE agreement. In this case, because of the anticipated cost sharing, DOE expects to waive title to such inventions to the recipient, subject to the Government's usual license, march-in, and U.S. preference provisions comparable to 35 USC 203 and 204. Additionally, DOE's patent waivers will include a U.S. competitiveness provision reflecting the programmatic objectives of the program, i.e., improving the U.S. competitive position and employment opportunities.

Domestic and small businesses and non-profit and educational organizations will have the right to elect to retain title pursuant to 35 USC 200 et seq.

## 5.0 Rights in Technical Data

The Government has unlimited rights in technical data created under the agreement. Delivery or licensing of technical data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement or as may be negotiated as a condition of a patent waiver to insure continued development toward commercialization of an invention arising under a DOE agreement.

In this program, it is anticipated that DOE will be able to withhold technical data created under this program for up to five (5) years from the time it is created under the Energy Policy Act. This will be addressed on a case-by-case basis for each agreement considering the technology involved as well as other factors. After the five-year time period expires, such data is subject to release if it is a Government record.

## SECTION VI: Notices to Applicants

### A. Amendments

Any amendments to this solicitation will be posted on the DOE-Chicago Current Solicitations Website located at <http://www.ch.doe.gov/business/acq/solicit.htm>. Only the Contracting Officer may amend this solicitation. Any data, information, or instructions coming from any other source are not official.

### B. Commitment of Public Funds

The Contracting Officer is the only individual who can legally commit the Government to the expenditure of public funds in connection with the proposed award. Any other commitment, either explicit or implied, is invalid.

### C. Assurances and Certifications

In addition to the lobbying certification required with submission of an application under this solicitation, DOE requires the submission of pre-award assurances of compliance and certifications, which are mandated by law or regulations. These documents shall be completed and provided to DOE when requested by the DOE Contract Specialist.

**D. Pre-award Costs**

Specific, written authorization from the Contracting Officer is not required if pre-award costs were incurred within 90 calendar days of the date of award **and** if the pre-award costs support research activities, i.e., if the project is exclusively for development or demonstration (not research), written authorization must be obtained. Should the awardee take such action, it is done so at the awardee's risk and does not impose any obligation on the DOE to issue an award (10 CFR 600.125). Pre-award cost authorizations will not be made retroactively.

**E. Environmental Impact**

DOE requires the submission of an environmental checklist for each application for DOE review prior to an award. Note that the environmental checklist is officially titled the "Chicago Operations Office National Environmental Policy Act Environmental Evaluation Notification Form, DOE CH 560." Award will not be made until any and all environmental requirements are completed. This submission shall be completed when requested.

**F. EPO Act**

Applicants other than an organization of the type described in Section 501(c) of the Internal Revenue Code of 1954 [26 U.S.C. Section 501(c)(3)] are subject to the eligibility requirements of Section 2306 of the Energy Policy Act of 1992 (EPO Act)[42 U.S.C. 13525]. In general, EPO Act requires that (1) the applicant's participation in the program will be in the economic interest of the United States, and (2) the applicant is a United States-owned company or, if not a United States-owned company, the company is: 1) incorporated or organized in the United States, and 2) the home company of the applicant's parent company offers equitable treatment to United States-owned companies.

**G. DOE Minority Economic Impact Loan**

DOE Minority Economic Impact loans are not available for this solicitation.

**H. Buy American Act**

NOTICE REGARDING THE PURCHASE OF AMERICAN-MADE EQUIPMENT AND PRODUCTS -- SENSE OF CONGRESS

It is the sense of the Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available under this award shall be American-made.

COMPLIANCE WITH BUY AMERICAN ACT

In accepting this award, the recipient agrees to comply with sections 2 through 4 of the Act of March 3, 1933 (41 U.S.C. 10a - 10c, popularly known as the "Buy American Act"). The recipient shall review the provisions of the Act to ensure that expenditures made under this award are in accordance with it.

**I. Simpson-Craig Amendment**

Applicant organizations which are described in section 501(c)(4) of the Internal Revenue Code of 1986 and engage in lobbying activities after December 31, 1995, will not be eligible for the receipt of federal funds constituting an award, grant, or loan.

As set forth in Section 3 of the Lobbying Disclosure Act of 1995, as amended, (2 U.S.C. 1602), lobbying activities are defined broadly to include, among other things, contacts on behalf of an organization with specified employees of the Executive Branch and Congress with regard to federal legislative, regulatory, and program administrative matters.

Applicants qualifying as described in Section 501 (c)(4) of the Internal Revenue Code of 1986 must fill out the Simpson-Craig Amendment Representation contained in the Financial Assistance Pre-Award Information Sheet (AA-47) identified in Section VII of this solicitation if selected for negotiation of an award.

**J. Lobbying Restriction (Interior Act 2000)**

The recipient agrees that none of the funds obligated on this award shall be made available for any activity or the publication or distribution of literature that in any way tends to promote public support or opposition to any legislative proposal on which Congressional action is not complete. This restriction is in addition to those prescribed elsewhere in statute and regulation.

**K. Notice Regarding Eligible/Ineligible Activities**

Eligible activities under this program include those that describe and promote the understanding of scientific and technical aspects of specific energy technologies but not those that encourage or support political activities such as the collection or dissemination of information related to potential, planned or pending legislation.

**L. Unsuccessful Applications**

Unsuccessful applications will not be returned. Unsuccessful applicants may request a debriefing from the Merit Review Chairperson.

**M. Intergovernmental Review**

Presubmission reviews and clearances under E.O. 12372 "Intergovernmental Review of Federal Programs" are not required under this solicitation.



## **SECTION VII: Supplemental Documentation**

### **A. Who Must Submit Supplemental Documentation**

If an applicant is selected for an award under this solicitation, the applicant must furnish the supplemental documentation identified in this section. All supplemental documentation must be furnished within 30 calendar days after the applicant receives notification of selection for negotiations and award. Failure to furnish the supplemental documentation will result in delays or may negate the selection.

Supplemental documentation will include pre-award certifications, cost information and other supporting data, and an environmental checklist.

Selections are expected to be made on or about January 15, 2001. If an applicant is selected for an award under this solicitation, the following supplemental documentation shall be submitted within 30 calendar days after selection notification.

Assurance of Compliance (DOE F1600.5)  
Certification regarding Lobbying, Debarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace (FA-CERTS)  
Disclosure of Lobbying Activities (SF-LLL) – if applicable  
Financial Assistance Pre-Award Information sheet (AA-47)  
EPA Act Representation  
National Environmental Policy Act Environmental Evaluation Notification Form, (DOE CH 560)  
Budget Page (DOE F4600.4)  
Budget Explanation Page

Applicants who fail to cooperate fully and in a timely manner during negotiations for awards may be eliminated from further consideration for awards.

### **URL ADDRESSES FOR DOCUMENTS & FORMS REFERENCED IN THIS SOLICITATION**

1. Access to Chemical Industry Technology Roadmaps – <http://www.oit.doe.gov/chemicals/page9.html>
2. DOE-CH Acquisition Group current solicitations website – <http://www.ch.doe.gov/business/acq/open.htm>. Click on “U.S. Chemical Industries of the Future.”
3. Standard Form 424, *Application for Federal Assistance* – <http://www.whitehouse.gov/OMB/grants/>
4. 10 CFR 600, Assistance Regulations – <http://www.pr.doe.gov/f600toc.html>

5. Lobbying Certification and Disclosure forms -  
<http://www.er.doe.gov/production/grants/forms.html>
- 6 Intellectual Property Contract Terms and Conditions –  
<http://www.ch.doe.gov/IPL/clause.htm>

## APPENDIX A

Complete Tables 1,2, and 3 based on either an "installed unit" or "unit of production." An installed unit might be a new reactor vessel or newly designed distillation column with energy usage expressed as units per year. A production unit might be used for a new catalyst material or a different process (new steps/new procedure) for making the chemical. In the latter case, energy usage would be measured by an annual production rate, such as barrels, tons, or kg per year.

Before proceeding, pick and justify the selection for units. Use the same units for all three tables. If the quantity of output per year will be different for the Current and Proposed Technologies, normalize the output to the same output. List each assumption used to report the numbers in each table. Please include a brief description of the rationale for each assumption.

**ONE INSTALLED OR UNIT OF PRODUCTION=\_\_\_\_\_**

**TABLE 1**  
**ENERGY SAVINGS**

<b>Energy Source</b>	<b>(a) Current Technology</b> (Energy Used per Installed or Production Unit Per Year)	<b>(b) Proposed Technology</b> (Energy Used per Installed or Production Unit Per Year)
Electricity (kWh)		
Natural Gas (cubic feet)		
Petroleum (barrels)		
Coal (short tons)		
Feedstock (Btu, please specify)		
Renewable (Btu, please specify)		
Waste (Btu, please specify)		

The first column is the type of energy. The second column (a) is the energy consumed with the current technology. The third column (b) is the estimated energy consumed by the proposed technology.

**TABLE 2**  
**ENVIRONMENTAL SAVINGS FROM REDUCTION IN**  
**NON-COMBUSTION RELATED EMISSIONS**

Complete Table 2 (if applicable) using the installed or production unit used in Table 1. Provide assumptions for table values in the narrative section of your application.

<b>Waste Generated</b>	<b>(a) Current Technology</b>  (tons/unit/year)	<b>(b) Proposed Technology</b>  (tons/unit/year)
CO <sub>2</sub>		
Other Greenhouse Gases (please specify)		
Carbon Monoxide		
SO <sub>2</sub>		
NO <sub>x</sub>		
Particulates		
VOCs		
Hydrocarbons		
Other Waste Emissions (please specify)		

The first column is the type of waste. The second column (a) is the amount of wastes generated with the current technology. The third column (b) is the estimated amount of wastes generated by the proposed technology.

**TABLE 3**  
**COMMERCIALIZATION MARKET**

Please complete this table using the selected installed or unit of production used in Tables 1-2. Provide assumptions for table values in the narrative section of the application.

	2000	2002	2005	2010	2015	2020
(a) Potential Market * ( number of units)						
(b) Capturable Market ** (number of units)						

\* **The Potential Market is that fraction of the entire market to which the technology is truly applicable.**

Remember to project the number of installed or production units by first considering limiting factors related to technology and market fit.

For instance, the proposed technology may not fit each type of process:

- The technology may only fit a certain size range of equipment
- The technology may only fit within a certain class of process equipment

=====

\*\* **Capturable Market is that fraction of the Potential Market willing to accept the new technology.**

Remember that the rate at which industrial technologies capture the market depends on:

- Technology characteristics (technology economics, new vs. retrofit)
- Industry characteristics (industry growth, competition)
- External (government regulation, trade restrictions)

Please project the number of installed or production units in the capturable

market by first considering these limiting factors related to rates of market acceptance.